

LIST 4 - DOCUMENTATION

Code Independent Documentation of Need and/or Cost

- 1 **Capital Improvement Plan or Master Plan:** The plan must address why the project is needed and/or provide a cost.
- 2 **Facilities Plan or Preliminary Engineering Report:** Excerpts justifying need and/or cost from the plan or report are acceptable if project-specific.
- 3 **Grant or Loan Application Form:** An application form is acceptable if it specifically describes a problem requiring capital expenditures.
- 4 **Engineer's Estimate or Bid Tabulation:** These must be project specific and independently generated. They must also be accompanied by an explanation of why the project is needed.

Code Independent Documentation of Need Only

- 5 **Intended Use Plan/State Priority List:** The excerpts must include a description of why the project is needed. Costs from IUPs will not be used - modeling parameters or other cost documentation must be provided.
- 6 **Comprehensive Performance Evaluation (CPE) or Sanitary Survey Results:** The results or recommendations may be used to justify need if the state concurs.
- 7 **Monitoring Results:** Monitoring results indicating an MCL exceedance or a trending toward an exceedance can demonstrate a need for a project if accompanied by a written statement explaining how the results demonstrate the need.
- 8 **Other Independent Document:** Use this code if documentation is independent but none of the codes listed above apply. Examples include: state enforcement order/notice of violation, engineering studies, watermain break report, repair reports, and distribution system studies.

Code Independent Documentation of Cost Only

- 9 **Cost of Previous Comparable Construction:** This may be used to justify costs if the costs are project-specific. It must include documentation of how the costs were derived.

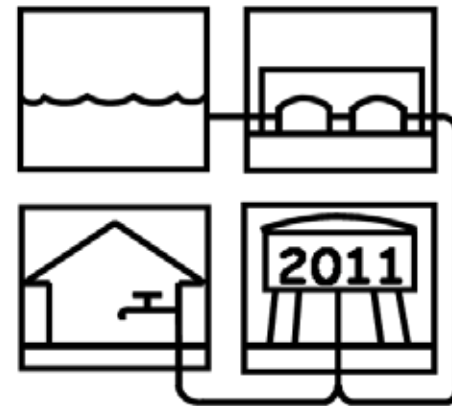
Code Survey-generated Documentation of Need Only

- 10 **Written by State, EPA Region, or Navajo Nation:** Brief description and statement of need written by the state, EPA Region, or Navajo Nation.
- 11 **Written by System:** Brief description and statement of need written by the system.

Code Documentation Submitted for 2007 Assessment

- 20 **Project Relies on 2007 Assessment Documentation:** Other documentation codes also apply if additional documentation is submitted for 2011 Assessment.

Lists of Codes



Drinking Water Infrastructure Needs Survey and Assessment

Use these instructions and lists of codes when you fill out the Needs Survey and Assessment questionnaire. In your documentation please be sure to include project descriptions. Also include copies of the breakdown of cost estimates, if available.

Instructions for Each Column on the 2011 Drinking Water Infrastructure Needs Survey and Assessment Questionnaire

The following instructions apply to columns on all tables in the questionnaire.

Column Title	Instructions
Project Number	Number the projects in each category in sequence, using the range of numbers specified for each category of need.
Project Name	Provide a name that briefly describes and identifies the project.
Type of Need	Refer to List 1 in the Lists of Codes and enter the code(s) that best identifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available.
Reason for Need	Refer to List 2 in the Lists of Codes and enter the code(s) that best justifies the project. More than one code may apply to a project.
New, Replace, Expand/Upgrade, or ReHabilitate	Identify whether the project is for: -New infrastructure installation where none exists, enter 'N' Resulting infrastructure is entirely new. -Replacement of existing infrastructure, enter 'R' Existing infrastructure is replaced with new infrastructure. -Expansion or Upgrade of a complete treatment plant, enter 'E' Major improvements to an existing complete plant. May add or change unit processes. May result in an increase in capacity. Use for complete treatment plants only. -Rehabilitation of existing infrastructure, enter 'H' Restore existing infrastructure to near new condition.
Current or Future	Identify whether the project is: -Needed now , enter 'C' (even if you cannot start construction now) -Not needed now , enter 'F' (but will be necessary before 12/31/2030)
Regulation or Secondary Purpose	If the project is needed to maintain or obtain compliance with a regulation, secondary MCL, or if one or more of the secondary purpose codes (green or climate readiness) apply, refer to List 3 in the Lists of Codes and enter the appropriate code. Enter '4A' if no code applies.
Cost Estimate	If available, enter the documented cost estimate for this project. Use only existing cost estimates. If no cost estimate is provided and modeling parameters are recorded, EPA will use models to estimate the cost.
Date of Cost Estimate	Enter the month and year (MM/YYYY) of the cost estimate. EPA will adjust cost estimates to current-year dollars.
Documentation	Refer to List 4 in the Lists of Codes and enter the code(s) that applies to the type of documentation provided that explains why the project is needed. If a cost estimate is provided, also enter the code that applies to the type of cost documentation. More than one code may apply to a project. Please enclose the appropriate pages of need and cost documentation, identified by project number.

LIST 3 - REGULATION OR SECONDARY PURPOSE

Code Regulation or Secondary Purpose

EXISTING SDWA REGULATIONS

- 1A Surface Water Treatment Regulations (Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule, Filter Backwash Recycling Rule, Long Term 1 Enhanced Surface Water Treatment Rule, or Long Term 2 Enhanced Surface Water Treatment Rule)
- 1B Total Coliform Rule (published June 1989)
- 1C Nitrate or Nitrite Standard
- 1D Lead and Copper Rule
- 1E Arsenic Rule (10 µg/L Arsenic Standard)
- 1F Stage 1 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a running annual average)
- 1G Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)
- 1H Ground Water Rule

OTHER REQUIREMENTS OR SECONDARY PURPOSES

- 2A Secondary Contaminants (e.g., iron, taste and odor, and color)
- 2B State Requirements
- 2C Green – Green Infrastructure (e.g., porous pavement, green roofs)
- 2D Green – Water Efficiency (e.g., meters, pressure reducing valves)
- 2E Green – Energy Efficiency (e.g., pump rehab, VFDs, SCADA)
- 2F Green – Environmentally Innovative (e.g., LEED buildings)
- 2G Climate Readiness (e.g., source quality degradation, source quantity availability, or infrastructure vulnerability)

PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS

Needs associated **solely** with the following proposed or recently promulgated regulations are not allowable and should not be included. The costs for these needs, estimated for each rule's Economic Analysis, will be added to the total national need. These regulations include:

- Stage 2 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a locational running annual average)
- Proposed Revisions to the 1989 Total Coliform Rule
- Proposed Radon Rule

If None of the Above Codes Applies

- 4A Use this code if none of the codes above apply

LIST 2 - REASON FOR NEED

Code	Reason the Project is Needed
A1	Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2030.
A2	Project is to correct a deficiency in source water quantity caused by current user demand.
A3	Project is to correct a deficiency in storage capacity caused by current user demand.
A4	Project is to correct existing pressure problems (not related to fire flow).
A5	Project needed as a result of, but not in preparation for, a natural disaster.
A6	Project is to obtain or maintain compliance with an existing regulation (enter the regulation code from List 3 in the Lists of Codes in the regulation column of the questionnaire).
A7	Project is to obtain or maintain compliance with a secondary standard (e.g., iron, taste and odor, and color) (enter regulation code 2A in the regulation column of the questionnaire).
A8	Project is for consolidation with and/or connection to an existing public water system.
A9	Project is for extending service to existing homes without adequate water quantity or quality.
A10	Project is to prevent, detect, or respond to a security event (e.g., fence, locks, protective structures, gates, on-line sensors, motion sensors, alarm systems, generators, communications equipment, analytical equipment).
A11	Use this code if codes A1-A10 do not apply.

Important Notes:

A description of each project or a copy of the documentation must also be clearly identified by project number and submitted with the completed questionnaire.

Projects **substantially** for meeting expected future population growth or for fire flow are unallowable.

The following instructions apply to columns on specific tables in the questionnaire.

Column Title	Instructions
Design Capacity	On the <i>Source, Treatment, Storage, and Pumping</i> project table enter the design capacity when applicable - million gallons per day (MGD) for source, treatment, and pumping; million gallons (MG) for storage; and kilowatts (kW) for emergency power. For this survey, "design capacity" is the total volume or the flow that can be produced when all components of the project are operating.
Diameter of Pipe	On the <i>Transmission and Distribution</i> project table enter the diameter of pipe (in inches) that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different sizes of pipe if a documented cost is not available.
Length of Pipe	On the <i>Transmission and Distribution</i> project table enter the length of pipe (in feet) that must be rehabilitated, replaced, or installed as new for each diameter identified in the previous column.
Size	On the <i>Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter, and Other</i> project table enter the diameter (in inches) for infrastructure that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different diameters of the same type of need. Diameter is not needed for service line projects.
Number Needed	On the <i>Source, Treatment, Storage, and Pumping</i> project table, if you have multiple identical projects at the same capacity (e.g., rehabilitate 10 wells each with a 0.5 MGD capacity), indicate the total number needed. On the <i>Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter and Other</i> project table, if you have multiple identical projects with the same diameter (e.g. install four 8" diameter valves), indicate the total number needed. If you use this column and provide a project cost, the cost should reflect the entire project (i.e., <i>all</i> 10 wells or <i>all</i> 400 meters, not the cost of an individual well or meter).

- **What is a "need?"** – Installation or rehabilitation of capital infrastructure needed over the next 20 years.
- **What is "independent documentation?"** – Documents generated through a process independent of the survey (e.g., CIP, master plan, sanitary survey report).
- **What is "survey-generated documentation?"** – Documents generated specifically for the survey written by the system or the state.

LIST 1 - TYPE OF NEED

Code **Type of Need**

RAW/UNTREATED WATER SOURCE

R1	Well (including pump and appurtenances, not including a well house)
R2	Well Pump
R3	Well House (may include a chemical feed room)
R4	Eliminate Well Pit
R5	Abandon Well
R6	Aquifer Storage and Recovery Well
R7	Surface Water Intake
R8	Raw Water Pump
R9	<i>Off-Stream Raw Water Storage</i> ¹
R10	Spring Collector
R11	<i>De-stratification</i> ¹

TREATMENT: *Disinfection*

T1	Chlorination
T2	Chloramination
T3	Chlorine Dioxide
T4	Ozonation
T5	Mixed Oxidant Type Equipment
T6	Ultraviolet Disinfection
T7	Contact Basin for CT
T8	Dechlorination of Treated Water
T9	Chlorine Gas Scrubber

TREATMENT: *Complete Plants (N/R/E require independent documentation)*

T10	Conventional Filter Plant (includes CAC technologies)
T11	Direct or In-line Filter Plant
T12	Slow Sand Filter Plant
T13	Diatomaceous Earth Filter Plant
T14	Membrane Technology for Particulate Removal
T15	Cartridge or Bag Filtration Plant
T16	Lime Softening
T17	Reverse Osmosis
T18	Electrodialysis
T19	Activated Alumina
T20	Manganese Green Sand (or other oxidation/filtration technology)
T21	Ion Exchange
T22	Groundwater Chemical-feed
T23	Iron Adsorption
T24	Aeration

TREATMENT: *Other Components / Equipment / Processes*

T30	Zebra Mussel Control
T31	Corrosion Control (chemical addition)
T32	Powdered Activated Carbon
T33	Aeration (component)
T34	Sequestering for Iron and/or Manganese

¹ Cost must be provided. Infrastructure cannot be modeled.

LIST 1 - TYPE OF NEED (cont.)

Code **Type of Need**

T35	Chemical Feed
T36	Chemical Storage Tank
T37	Fluoride Addition
T38	Presedimentation Basin
T39	Sedimentation/Flocculation
T40	Granular Activated Carbon
T41	Membrane Filtration (not complete plant)
T42	Media Filters
T43	Waste Handling/Treatment: Mechanical (not included in another project)
T44	Waste Handling/Treatment: Nonmechanical or Connection to a Sanitary Sewer (not included in another project)
T45	Type of Treatment Unknown
T46	<i>Other (Please include an explanation)</i> ¹

TRANSMISSION: *(Any mains that transport raw water to the treatment plant, or treated water from the plant to the distribution system grid)*

X1	Raw Water Transmission
X2	Finished Water Transmission

DISTRIBUTION

M1	Distribution Mains (Any mains that transport water through a piping grid serving customers - see "transmission" above)
M2	Lead (Pb) Service Line Replacement
M3	Service Lines (other than lead service lines)
M4	Hydrants Used for Flushing (not included in another pipe project)
M5	Valves (gate, butterfly, etc.) (not included in another pipe project)
M6	Control Valves (PRVs, altitude, etc.)
M7	Backflow Prevention Devices/Assemblies
M8	Water Meters

FINISHED/TREATED WATER STORAGE

S1	Elevated Finished/Treated Water Storage
S2	Ground-level Finished/Treated Water Storage
S3	Hydropneumatic Storage
S5	Cover for Existing Finished/Treated Water Storage

PUMP STATION AND FINISHED WATER PUMP

P1	Finished Water Pump
P2	Pump Station (booster or raw water pump station-may include clearwell, pumps, housing)

OTHER INFRASTRUCTURE NEEDS

W1	<i>Laboratory Capital Costs for Labs Owned by the System</i> ¹
W2	Computer and Automation Costs (SCADA)
W3	Pump Controls/Telemetry
W4	Emergency Power (enter design capacity as kilowatts)
W5	Security: Fencing
W6	<i>Security: Other Physical (lights, wall, manhole locks, other locks)</i> ¹
W7	<i>Security: Electronic/Cyber (computer firewall, closed circuit TV)</i> ¹
W8	<i>Security: Monitoring Tools (used to identify anomalies in process streams or finished water)</i> ¹
W9	<i>Security: Other Security (describe in documentation)</i> ¹
W10	<i>Other (Please include an explanation)</i> ¹